

ARMSTRONG UNIVERSITY ONLINE

WHATEVER INDUSTRY YOU'RE IN, WE HAVE FREE ONLINE COURSES TO HELP YOU HANDLE THOSE TOUGH, EVERYDAY ISSUES.

At Armstrong, we understand that in any industry, utility management is as challenging as it is crucial. Every day you're faced with new demands and rising expectations to achieve more with less. Your job may be growing more difficult, but Armstrong University is here to make it easier.

Armstrong University Online gives you easy access to in-depth information and expertise that encompasses the processes, systems, products and requirements that are vital to serving your industry.

If you require CEU's for your professional education requirements, you have the opportunity to purchase CEU's for the successful completion of specially assembled packaged courses.

We'll show you new and better ways to save time, money and energy.

Armstrong University Online offers courses to help you achieve all the following, and more.

- Increase production uptime and yield
- Maximize quality and profitability
- Improve safety
- Raise efficiency while cutting costs
- Reduce your carbon footprint

- Provide safety and comfort for customers, patients and staff
- Improve individual job performance

.50 CEU

 Increase the value of employees throughout your organization

LEARN AND EARN CREDIT

Armstrong in partnership with Glen Oaks Community College is proud to advise you that Armstrong University courses deliver training that carries Continuing Education Units (CEU) from an accredited institution of higher education. We also offer PDH (Professional Development Hours) for FREE. PDHs are educational units used to fulfill continuing education requirements for licensure, certification, or tenure, for instance. Usually one course equals one PDH.

Continuing Education Unit (CEU) Packaged Courses

- College of Steam Principles .25 CEU College of Steam Users
- College of Steam Generation .50 CEU
 College of Condensate Return .50 CEU
- College of Steam Distribution .50 CEU
 Safety Training 101 .75 CEU

Visit armstronginternational.com/university to learn more, and use this handy scorecard to keep track of your progress.

KNOWLEDGE NOT SHARED IS ENERGY WASTED®

College of Steam Principles				
Course 1	Steam Basics	20 Minutes		
Course 2	Typical Steam & Condensate System Components	30 Minutes		
Course 3	Air & Non-Condensable Gases	22 Minutes		
Course 4	Steam Quality	30 Minutes		
Course 5	Water Hammer	30 Minutes		
Course 6	Superheated Steam	30 Minutes		

College of Steam – Generation					
Course 1	Typical Layout of a Boiler House	30 Minutes			
Course 2	Types of Steam Boilers	30 Minutes			
Course 3	Combustion Basics	30 Minutes			
Course 4	Steam Costs	30 Minutes			
Course 5	Drain Separators	30 Minutes			
Course 6	Feedwater Pumps	30 Minutes			
Course 7	Combustion Air Preheaters	23 Minutes			
Course 8	Introduction to Deaerators	60 Minutes			
Course 9	Advanced Deaerator Practices	30 Minutes			
Course 10	Typical Optimizations of a Boiler House	30 Minutes			
Course 11	O&M Best Practices – Boilers	20 Minutes			
Course 12	How to Audit a Boilerhouse	35 Minutes			

College of Steam – Users					
Course 1	Typical Steam Users	30 Minutes			
Course 2	Basic Heat Transfer	23 Minutes			
Course 3	Calculating the Amount of Steam Used in Equipment	35 Minutes			
Course 4	Direct and Indirect Steam Heating	20 Minutes			
Course 5	Heat Exchanges	20 Minutes			
Course 6	Steam Traps	40 Minutes			
Course 7	Control Valves	37 Minutes			
Course 8	Steam Tracing	35 Minutes			
Course 9	Steam Ejectors	20 Minutes			

	College of Steam – Users (cont'd)	
Course 10	Smart Solutions	35 Minutes
Course 11	Tank Heaters	32 Minutes
Course 12	System Solutions for Liquid Storage for HPI/CPI	30 Minutes
Course 13	System Solutions for Sterile Applications in Healthcare	30 Minutes
Course 14	Typical Optimization on Steam Users	35 Minutes
Course 15	O&M Best Practices for Steam Users	15 Minutes
Course 16	Testing Steam Traps	30 Minutes
Course 17	Steam Trap Management with SAGE and the UMT	30 Minutes

College of Steam – Distribution				
Course 1	Piping Specifications	20 Minutes		
Course 2	Designing Steam Distribution Piping	40 Minutes		
Course 3	Steam Distribution Headers	30 Minutes		
Course 4	Safety Relief Valves	33 Minutes		
Course 5	Insulation	30 Minutes		
Course 6	Pressure and Temperature control Essentials	60 Minutes		
Course 7	Noise-Meeting Regulatory Requirements for a PRV	20 Minutes		
Course 8	Pressure Reduction Stations	30 Minutes		
Course 9	Pressure Reduction Troubleshooting	20 Minutes		
Course 10	Liquid Drainers	25 Minutes		
Course 11	Typical Optimizations for a Steam Distribution System	20 Minutes		

College of Condensate Return				
Course 1	Calculating and Returning Condensate	42 Minutes		
Course 2	Designing Condensate Return Lines	37 Minutes		
Course 3	Condensate Quality and Contamination – Part 1	23 Minutes		
Course 4	Condensate Quality and Contamination – Part 2	15 Minutes		
Course 5	Flash Steam	30 Minutes		
Course 6	Stalling Theory	40 Minutes		
Course 7	Typical Condensate Return System Optimizations	25 Minutes		
Course 8	O&M Best Practices for Condensate Return Systems	25 Minutes		
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College of Flow Measurement				
Course 1	Fundamentals of Flow Measurement – Introduction	30 Minutes		
Course 2	Fundamentals of Flow Measurement – Advanced	25 Minutes		

College of Heat Recovery				
Course 1	Typical Components of a Heat Recovery System	30 Minutes		
Course 2	Combined Heating, Power and Cooling	30 Minutes		
Course 3	Coolers and Condensers	25 Minutes		

	College of Humidification	
Course 1	Components of an HVAC System	22 Minutes
Course 2	Fundamentals of Humidification	20 Minutes
Course 3	Psychometrics	30 Minutes
Course 4	Absorption Distance	20 Minutes
Course 5	HVAC Controls – Humidity and Tempearature	30 Minutes
Course 6	Electode Steam Humidifiers	25 Minutes
Course 7	Pressurized Steam Humidifiers	30 Minutes
Course 8	Gas Fired Steam Humidifiers	30 Minutes
Course 9	Hydro-Pneumatic Humidifiers	30 Minutes
Course 10	Resistive Heating Element Steam Humidifiers	35 Minutes
Course 11	Evaporative Pad Adiabatic Humidifiers	35 Minutes
Course 12	Humidification in Healthcare Environments	20 Minutes

College of Refrigeration				
	Course 1	Typical Components of a Refrigeration System	30 Minutes	
	Course 2	Coolers and Condensers	25 Minutes	

College of Environmental Health and Safety			
Course 1	First Aid, Medical and Blood Borne Pathogen	30 Minutes	
Course 2	Personal Protective Equipment	20 Minutes	
Course 3	Hearing Conversation	20 Minutes	
Course 4	Emergency Preparedness	20 Minutes	
Course 5	Fall Protection	30 Minutes	
Course 6	Lockout/Tagout	40 Minutes	
Course 7	Compressed Gases and Flammable Liquids	30 Minutes	
Course 8	Electrical Safety	35 Minutes	
Course 9	Machine Guarding	12 Minutes	
Course 10	Fire Protection	30 Minutes	
Course 11	Hot Work	25 Minutes	
Course 12	Confined Space Entry	30 Minutes	
Course 13	Cranes, Hoists and Rigging	17 Minutes	
Course 14	Line Breaking	30 Minutes	
Course 15	Arc Flash Awareness	30 Minutes	
Course 16	Powered Industrial Vehicles	20 Minutes	
Course 17	EPCRA	30 Minutes	
Course 18	Spill Prevention, Control & Countermeasures	20 Minutes	
Course 19	Regulated Waste	30 Minutes	
Course 20	Heat Stress	22 Minutes	
Course 21	Storm Water Pollution Prevention Plan (SWPPP)	20 Minutes	
Course 22	Job Hazard Analysis	25 Minutes	
Course 23	Permit Compliance	20 Minutes	
Course 24	Stop Work Authority	30 Minutes	
Course 25	Work Alone	15 Minutes	
Course 26	Back Safety in the Workplace	30 Minutes	
Course 27	Hazard Communications	20 Minutes	
Course 28	Workplace Injury and Accident Investiagtion	30 Minutes	
Course 29	Workplace Violence	10 Minutes	

College of Hot Water				
Course 1	Typical Energy Savings in Hot Water Systems	30 Minutes		
Course 2	Legionella	38 Minutes		
Course 3	Industrial Hot Water Systems	40 Minutes		
Course 4	Industrial Water Temperature Controls & Washdown	30 Minutes		
Course 5	Direct Contact Water Heating – Flo-Direct®	45 Minutes		
Course 6	Institutional Hot Water Systems – Introduction	40 Minutes		
Course 7	Institutional Hot Water Systems – Advanced	37 Minutes		
Course 8	Institutional Water Temperature Controls	43 Minutes		
Course 9	Heat Exchangers for Domestic & Process Hot Water	25 Minutes		
Course 10	Water Boilers	25 Minutes		
Course 11	Heat Pumps	30 Minutes		

College of Water Treatment			
	Course 1	Industrial Water Treatment	40 Minutes
	Course 2	Water Chemistry and Corrosion	40 Minutes
	Course 3	Boiler Water Treatment	30 Minutes

READY TO LEARN MORE?

For information about our extensive curriculum of online courses, training, seminars and other learning opportunities, visit Armstrong University at armstronginternational.com/university.

You can also reach us by sending an email to: university@armstronginternational.com



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